

## **Sarcobatus vermiculatus / Pascopyrum smithii - (Elymus lanceolatus) Shrub Herbaceous Vegetation**

COMMON NAME	Greasewood / Western Wheatgrass - (Streamside Wildrye) Shrub Herbaceous Vegetation
SYNONYM	Greasewood / Western Wheatgrass Shrub Prairie
PHYSIOGNOMIC CLASS	Herbaceous Vegetation (V)
PHYSIOGNOMIC SUBCLASS	Perennial graminoid vegetation (V.A)
PHYSIOGNOMIC GROUP	Temperate or subpolar grassland with a sparse shrub layer (V.A.7)
PHYSIOGNOMIC SUBGROUP	Natural/Semi-natural (V.A.7.N)
FORMATION	Intermittently flooded temperate or subpolar grassland with a sparse xeromorphic (evergreen and/or deciduous) shrub layer (V.A.7.N.n)
ALLIANCE	SARCOBATUS VERMICULATUS INTERMITTENTLY FLOODED SHRUB HERBACEOUS ALLIANCE

CLASSIFICATION CONFIDENCE LEVEL 1

USFWS WETLAND SYSTEM

RANGE

### **Theodore Roosevelt National Park**

Individual *Sarcobatus vermiculatus* plants occur throughout Theodore Roosevelt National Park; however, the association was found on only one site located adjacent to the loop road in the South Unit.

### **Globally**

This community is found in eastern Wyoming, Montana, southern Saskatchewan, western North Dakota, western South Dakota, and western Nebraska.

ENVIRONMENTAL DESCRIPTION

### **Theodore Roosevelt National Park**

Because the development of the community in Theodore Roosevelt NP is so rare, it is difficult to generalize about the environmental characteristics.

### **Globally**

This community is found on flat to gently sloping alluvial fans, terraces, lakebeds, and floodplains (Mueggler and Stewart 1978, Hansen and Hoffman 1988). Dodd and Coupland (1966) found *Sarcobatus vermiculatus* in association with *Pascopyrum smithii* only on the most arid parts of southwest Saskatchewan. The soil is usually deep clay, silty clay, sandy clay, or loam (Hirsch 1985, Jones and Walford 1995), although coarse soils are possible (USFS 1992, Thilenius *et al.* 1995). They are saline or alkaline but salt crusts on the surface are absent (Thilenius *et al.* 1995, but see Steinauer and Rolfsmeier 1997). Parent material is usually alluvium. Flooding during the spring is possible.

MOST ABUNDANT SPECIES

### **Theodore Roosevelt National Park**

<u>Stratum</u>	<u>Species</u>
Short Shrub	<i>Sarcobatus vermiculatus</i>
Herbaceous	<i>Pascopyrum smithii</i>

### **Globally**

<u>Stratum</u>	<u>Species</u>
Short Shrub	<i>Sarcobatus vermiculatus</i>
Graminoid	<i>Pascopyrum smithii</i>

CHARACTERISTIC SPECIES

### **Theodore Roosevelt National Park**

*Pascopyrum smithii*, *Sarcobatus vermiculatus*

### **Globally**

*Pascopyrum smithii*, *Sarcobatus vermiculatus*

VEGETATION DESCRIPTION

### **Theodore Roosevelt National Park**

**USGS-NPS Vegetation Mapping Program**  
**Theodore Roosevelt National Park**

---

Individual plants of *S. vermiculatus* are about 1 m in height and widely spaced. Herbaceous cover is well developed and dominated by *Pascopyrum smithii*. Overall, species richness is low.

**Globally**

This community has moderate to dense vegetation cover (Jones and Walford 1995, Thilenius et al. 1995). Medium-tall (0.5-1.5 m) shrubs are scattered throughout, with a total shrub canopy of 10-25% (Hansen and Hoffman 1988, USFS 1992). The shrub layer is dominated by *Sarcobatus vermiculatus*, with *Atriplex confertifolia*, *A. argentea*, *Artemisia tridentata*, and *Chrysothamnus viscidiflorus* in smaller amounts. *Symphoricarpos occidentalis* and *Rhus aromatica* are sometimes found in more mesic microhabitats within this community (Hirsch 1985). Herbaceous cover is sparse beneath the shrubs and moderate to dense in between. The dominant species are typically 0.5-1 m tall. The most abundant species is *Pascopyrum smithii*, usually accompanied by *Bouteloua gracilis*, *Bromus japonicus*, *B. tectorum*, and *Stipa comata*. Few forbs are found in this community. *Achillea millefolium* and *Opuntia polyacantha* are the only species with high constancy. Other species present may include *Grindella squarrosa*. Overall species diversity in this community is low (Hansen and Hoffman 1988, Von Loh et al. 1999).

CONSERVATION RANK G4.

DATABASE CODE CEGL001508

**SIMILAR ASSOCIATIONS**

*Sarcobatus vermiculatus* / *Elymus elymoides* - *Pascopyrum smithii* Shrubland

**COMMENTS**

Some authors recognize a *Sarcobatus vermiculatus* / *Pseudoroegneria spicata* Shrub Herbaceous Vegetation (Hansen and Hoffman 1988, MTNHP 1988, USFS 1992) in addition to or combined with *S. vermiculatus* / *Pascopyrum smithii* Shrub Herbaceous Vegetation (Brown 1971).

**REFERENCES**

- Brown, R. W. 1971. Distribution of plant communities in southeastern Montana badlands. *The American Midland Naturalist* 85(2):458-477.
- Dodd, J. D., and R. T. Coupland. 1966. Vegetation of saline areas in Saskatchewan. *Ecology*. 47(6):958-968.
- Earth Resource Technology. No Date. Vanguard II Mine Application No. 334-T2, on file at Wyoming Department of Environmental Quality, Land Quality Division, Cheyenne.
- Fisser, H.G., J.R. Wight, J.R. Flesland, and L.D. Robinson. 1965. Halogeton research. 1964 results. University of Wyoming Cooperative Research Report to the BLM. Sections I-VI. Wyoming Agricultural Experiment Station Mimeographed Circular pp. 1-82. University of Wyoming, Laramie, WY.
- Hamner, R. W. 1964. An ecological study of *Sarcobatus vermiculatus* communities of the Big Horn Basin, Wyoming. Unpublished thesis, University of Wyoming, Laramie, WY.
- Hansen, P.L. and G.R. Hoffman. 1988. The vegetation of the Grand River/Cedar River, Sioux, and Ashland Districts of the Custer National Forest: a habitat type classification. USDA Forest Service General Technical Report RM-157, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.
- Hansen, P.L. and G.R. Hoffman. 1988. The vegetation of the Grand River/Cedar River, Sioux, and Ashland Districts of the Custer National Forest: a habitat type classification. USDA Forest Service General Technical Report RM-157, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.
- Hirsch, K.J. 1985. Habitat type classification of grasslands and shrublands of southwestern North Dakota. Ph.D. Thesis. NDSU, Fargo, ND.
- Johnston, B. C. 1987. Plant associations of region two: potential plant communities of Wyoming, South Dakota, Nebraska, Colorado, and Kansas. Edition 4. USDA Forest Service, Rocky Mountain Region. R2-Ecol-87-2. 429 pp.
- Jones, G. P., and G. M. Walford. 1995. Major riparian vegetation types of eastern Wyoming. A Report Submitted to the Wyoming Department of Environmental Quality, Water Quality Division. Grant 9-01136. 244 pp.
- Montana Natural Heritage Program (MT NHP). 1988. Draft Guide to the natural vegetation of Montana. Montana Natural Heritage Program, Helena. 389 p.
- Mueggler, W. F. and W. L. Stewart. 1980. Grassland and shrubland habitat types of western Montana. USDA Forest Service General Tech. Report INT-66. Intermountain Forest & Range Experiment Station, Ogden, Utah. 155 pp.
- Mueggler, W. F., and W. L. Stewart. 1978. Grassland and shrubland habitat types of western Montana. USDA For. Serv., Gen. Tech. Rep. INT-66, Ogden, Utah. 154 pp.
- Olson, R.A. and W.A. Gerhart. 1982. A physical and biological characterization of riparian habitat and its importance to wildlife in Wyoming. Unpublished report prepared for Wyoming Fish and Game Department, Cheyenne, Wyoming. 188 pp.

**USGS-NPS Vegetation Mapping Program**  
**Theodore Roosevelt National Park**

---

- Steinauer, G. and S. Rolfsmeier. 1997. Terrestrial natural communities of Nebraska. Draft - October 28, 1997. Nebraska Game and Parks Commission, Lincoln, NE. 117 p.
- Thilenius, J. F., G. R. Brown, and A. L. Medina. 1995. Vegetation on semi-arid rangelands, Cheyenne River Basin, Wyoming. General Technical Report RM-GTR-263. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO. 60 pp.
- United States Forest Service. 1992. Draft habitat types of the Little Missouri National Grasslands. Medora and McKenzie Ranger Districts, Custer National Forest. Dickinson, ND.
- Von Loh, J., D. Cogan, D. Faber-Langendoen, D. Crawford, and M. Pucherelli. 1999. USGS-NPS Vegetation Mapping Program, Badlands National Park, South Dakota (Final Report). Technical Memorandum No. 8260-99-02 [this number will be determined at the time of final publishing]. U.S. Bureau of Reclamation Technical Service Center. Denver Colorado.